

Form PTO-1390US DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE
(Rev. 5-93)TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NO. H3888 PCT/US

U.S. APPLICATION NO. (if known sec 17 CFR 1.5)

09/914303

INTERNATIONAL APPLICATION NO.
PCT/EP00/01312INTERNATIONAL FILING DATE
February 18, 2000PRIORITY DATE CLAIMED
February 27, 1999

TITLE OF INVENTION

CLEANING AGENTS FOR HARD SURFACES

APPLICANT(S) FOR DO/EO/US

Beatrice Mayoud and Daniel Dufay

Applicant herewith submits to the United States Designated/Elected Office (EO/DO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
 2. ☐ This a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
 3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 (1).
 4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
 5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
 6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
 7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
 8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
 9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (UNEXECUTED)
 10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).
- Items 11. to 16. below concern other document(s) or information included:**
11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
 12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
 13. ☒ A FIRST preliminary amendment
 ☐ A SECOND or SUBSEQUENT preliminary amendment.
 14. ☐ A substitute specification.
 15. ☐ A change of power of attorney and/or address letter.
 16. ☐ Other items or information.:

"Express Mail" mailing label number EL541614165US

U.S. Application No. (If known see CFR 1.30) <div style="font-size: 1.5em; font-weight: bold; margin-top: 10px;">09/914303</div>	INTERNATIONAL APPLICATION NO. PCT/EP00/01312	ATTORNEY'S DOCKET NUMBER H3888 PCT/US						
17. ■ The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)): Search Report has been prepared by the EPO or JPO..... \$860.00 International preliminary examination fee paid to USPTO (37CFR 1.482) \$690.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37CFR 1.445(a)(2)).... \$760.00 Neither international preliminary examination fee (37CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO. \$1000.00 International preliminary examination fee paid to USPTO (37CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4)..... \$96.00 <div style="text-align: right; font-weight: bold;"> ENTER APPROPRIATE BASIC FEE AMOUNT = </div>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">CALCULATIONS</th> <th style="width: 10%;">PTO USE ONLY</th> </tr> <tr> <td style="height: 100px;"></td> <td></td> </tr> </table>		CALCULATIONS	PTO USE ONLY			
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Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date 37 (CFR 1.492(e)).		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">\$</td> <td style="width: 10%;">860</td> <td style="width: 10%;">00</td> </tr> </table>		\$	860	00		
\$	860	00						
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Total Claims	20 - 20 =	0	X 18.00	\$	0 00			
Independent Claims	2 - 3 =	0	X 80.00	\$	0 00			
Multiple dependent claims (s)(if applicable)		0	+ 260.00	\$	0 00			
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Processing fee of \$130.00 for furnishing the English translation later the <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37CFR 1.492(f)).....				+				
TOTAL NATIONAL FEE				=	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">\$</td> <td style="width: 10%;">860</td> <td style="width: 10%;">00</td> </tr> </table>	\$	860	00
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Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$				
TOTAL FEES ENCLOSED				=	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">\$</td> <td style="width: 10%;">860</td> <td style="width: 10%;">00</td> </tr> </table>	\$	860	00
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				charged	860.00			
a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed. b. ■ Please charge my Deposit Account No. <u>50-1177</u> in the amount of \$ 860.00 to cover the above fees. A triplicate copy of this sheet is enclosed. Order No. <u>01-0528</u> . c. ■ The Assistant Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>50-1177</u> . A triplicate copy of this sheet is enclosed. NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status. SEND ALL CORRESPONDENCE TO: Cognis Corporation, Law Dept. 2500 Renaissance Blvd., Ste. 200 Gulph Mills, PA 19406								
				SIGNATURE 	NAME ATTORNEY FOR APPLICANT Steven J. Trzaska 36,296 REGISTRATION NUMBER			

09/914303

JC03 Rec'd PCT/PTO

27 AUG 2001

"Express Mail" mailing label number EL541614165US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Mayoud et al.
I.A. Number : PCT/EP00/01312
I.A. Filing Date: February 18, 2000
Priority Date : February 27, 1999
Title : CLEANING AGENTS FOR HARD SURFACES

Grp./A.U. : Unknown
Examiner : Unknown

Docket No. : H 3888 PCT/US

Assistant Commissioner for Patents
Box PCT
Washington, DC 20231

ATTN: DO/EO/US

PRELIMINARY AMENDMENT

Sir:

Preliminary to examination, please amend the instant application as follows.

In the Specification:

At page 1, line 1, delete "Field of the Invention", and replace with --Background of the Invention--.

At page 1, line 7, delete "Prior Art".

Enter a new page 11, submitted herewith, containing the Abstract of the Disclosure.

In the Claims:

Cancel claims 1-10, without prejudice.

Please enter the following new claims.

11. (new) A hard surface cleaning composition comprising:
- (a) an alkyl and/or alkenyl sulfate;
 - (b) an alcohol polyethylene glycol ether;
 - (c) an alkyl and/or alkenyl polyglycoside; and

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(d) an electrolyte salt.

12. (new) The composition of claim 11 wherein the alkyl and/or alkenyl sulfate is present in the composition in an amount of from about 1 to 10% by weight, based on the weight of the composition.

13. (new) The composition of claim 11 wherein the alkyl and/or alkenyl sulfate is present in the composition in an amount of from about 2 to 6% by weight, based on the weight of the composition.

14. (new) The composition of claim 11 wherein the alcohol polyethylene glycol ether is present in the composition in an amount of from about 1 to 10% by weight, based on the weight of the composition.

15. (new) The composition of claim 11 wherein the alcohol polyethylene glycol ether is present in the composition in an amount of from about 3 to 8% by weight, based on the weight of the composition.

16. (new) The composition of claim 11 wherein the alkyl and/or or alkenyl polyglycoside is present in the composition in an amount of from about 1 to 10% by weight, based on the weight of the composition.

17. (new) The composition of claim 11 wherein the alkyl and/or or alkenyl polyglycoside is present in the composition in an amount of from about 2 to 4% by weight, based on the weight of the composition.

18. (new) The composition of claim 11 wherein the electrolyte salts are present in the composition in an amount of from about 80 to 90% by weight, based on the weight of the composition.

19. (new) The composition of claim 11 wherein the electrolyte salts are present in the composition in an amount of from about 85 to 88% by weight, based on the weight of the composition.

20. (new) The composition of claim 11 wherein the composition contains less than about 5% by weight, based on the weight of the composition, of water.

21. (new) A process for cleaning a hard surface comprising contacting the surface

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with a composition containing:

- (a) an alkyl and/or alkenyl sulfate;
- (b) an alcohol polyethylene glycol ether;
- (c) an alkyl and/or alkenyl polyglycoside; and
- (d) an electrolyte salt.

22. (new) The process of claim 21 wherein the alkyl and/or alkenyl sulfate is present in the composition in an amount of from about 1 to 10% by weight, based on the weight of the composition.

23. (new) The process of claim 21 wherein the alkyl and/or alkenyl sulfate is present in the composition in an amount of from about 2 to 6% by weight, based on the weight of the composition.

24. (new) The process of claim 21 wherein the alcohol polyethylene glycol ether is present in the composition in an amount of from about 1 to 10% by weight, based on the weight of the composition.

25. (new) The process of claim 21 wherein the alcohol polyethylene glycol ether is present in the composition in an amount of from about 3 to 8% by weight, based on the weight of the composition.

26. (new) The process of claim 21 wherein the alkyl and/or or alkenyl polyglycoside is present in the composition in an amount of from about 1 to 10% by weight, based on the weight of the composition.

27. (new) The process of claim 21 wherein the alkyl and/or or alkenyl polyglycoside is present in the composition in an amount of from about 2 to 4% by weight, based on the weight of the composition.

28. (new) The process of claim 21 wherein the electrolyte salts are present in the composition in an amount of from about 80 to 90% by weight, based on the weight of the composition.

29. (new) The process of claim 21 wherein the electrolyte salts are present in the composition in an amount of from about 85 to 88% by weight, based on the weight of

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2
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30. (new) The process of claim 21 wherein the composition contains less than about 5% by weight, based on the weight of the composition, of water.

REMARKS/ARGUMENTS

Claims 11-30 are currently pending in the instant application.

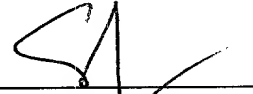
The Specification has been amended to include the preferred section headings pursuant to 37 C.F.R. §1.77. An Abstract of the Disclosure in accordance with the abstract of the corresponding international publication has been added on a separate sheet following the claims. All of the amendments to the Specification constitute deletions of original section headings and/or paragraphs, and insertions or additions of new section headings and/or paragraphs. It is submitted that the amendments to the Specification made herein introduce no new matter. Their entry is therefore proper and respectfully requested. Accordingly, pursuant to 37 C.F.R. §1.121(b)(1)(iii), no separate page captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE" is necessary.

Original claims 1-10 have been canceled and replaced with new claims 11-30 solely for the purpose of improving clarity and grammar, which may suffer in translation, and not for any reason which relates to the statutory requirements for a patent. New claims 11-30 have not been added in response to any rejection, nor in anticipation of any rejection. Applicant(s) respectfully submit(s) that the scope of new claims 11-30 corresponds to the scope of original claims 1-10, and that new claims 11-30 are no narrower than original claims 1-10. Furthermore, although a moot point in view of their cancellation, Applicant(s) respectfully submit(s) that original claims 1-10 satisfied the requirements of 35 U.S.C. §112, as filed. New claims 11-30 are supported by the claims as originally filed and by the Examples. No new matter has been introduced. Entry is therefore believed by Applicant to be proper and respectfully requested.

**Preliminary Amendment of U.S. National Stage for International Application
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Prompt examination of the instant application in view of the amendments
made herein is respectfully requested.

Respectfully submitted,



Steven J. Trzaska
(Reg. No. 36,296)
Attorney for Applicants
(610) 278-4929

Cognis Corporation
Law Department
2500 Renaissance Boulevard, Suite 200
Gulph Mills, PA 19406
G:\Data\H3888pam.doc

Attached:

1. Added Page 11

Abstract of the Disclosure

A hard surface cleaning composition containing: (a) an alkyl and/or alkenyl sulfate; (b) an alcohol polyethylene glycol ether; (c) an alkyl and/or alkenyl polyglycoside; and (d) an electrolyte salt.

Cleaning Agents for Hard Surfaces

Field of the Invention

This invention relates to cleaning compositions for hard surfaces containing a ternary surfactant mixture and electrolyte salts and to the use of these mixtures for the cleaning and antistatic finishing of painted metal surfaces, more particularly car bodies and bodywork parts.

Prior Art

In an era of heightened ecological awareness, the hand washing of motor vehicles is losing significance, even to the private car owner, because the introduction of oil-contaminated wastewater into the main drains causes serious environmental pollution. This has resulted in an increase in washing at special facilities which are equipped either with closed systems for collecting the washing water or with special oil separators. Besides so-called "wash lines" where the vehicles are successively transported through a sequence of washing, brushing and drying stations, for example on a chain conveyor, there has been a particular boom in self-service car washes where customers can clean their vehicles with a high-pressure water jet to which a water-based detergent preparation can be added if required. However, it has been found in this connection that painted metal surfaces, particularly those containing white or red pigments, have a tendency to attract dust through electrostatic charging and that this dust cannot be removed by water power alone.

Reference is made in this connection to German patent application **DE 19719696 A1** (Henkel) which describes solid preparations for cleaning car bodies that contain mixtures of alkyl sulfates, alcohol ethoxylates and alkyl phosphates together with electrolyte salts. However, the cleaning performance of these known preparations is not entirely satisfactory.

Accordingly, the problem addressed by the present invention was to provide solid compositions for cleaning hard surfaces which would dissolve easily, even in cold water, would have excellent cleaning performance, preferably for oil-based soil, and at the same time would provide painted metal surfaces, more particularly car bodies and bodywork parts, with an antistatic finish that would make resoiling difficult.

Description of the Invention

- The present invention relates to solid preparations containing
- 10 (a) alkyl and/or alkenyl sulfates,
 - (b) alcohol polyethylene glycol ethers,
 - (c) alkyl and/or alkenyl oligoglycosides and
 - (d) electrolyte salts.

It has surprisingly been found that the preparations according to the invention dissolve spontaneously and completely in water, even at low temperatures, and form a cleaning composition with which, for example, motor vehicles and other painted metal surfaces can be quickly and effectively freed from grease and oil residues and other soils. At the same time, the compositions provide the parts thus treated with an antistatic finish which makes resoiling very difficult. The invention includes the observation that the high cleaning performance is very largely attributable to a synergistic effect between the glycosides and the electrolyte salts, more particularly the inorganic phosphates.

25 **Alkyl and/or alkenyl sulfates**

Alkyl and/or alkenyl sulfates, which are often referred to as fatty alcohol sulfates and which form surfactant component (a), are the sulfation products of primary alcohols which correspond to formula (I):



(I)

in which R¹ is a linear or branched aliphatic alkyl and/or alkenyl group containing 6 to 22 carbon atoms, preferably 12 to 18 carbon atoms and X is an alkali metal and/or alkaline earth metal, ammonium, alkylammonium, alkanolammonium or glucammonium. Typical examples of alkyl sulfates which may be used for the purposes of the invention are the sulfation products of caproic alcohol, caprylic alcohol, capric alcohol, 2-ethylhexyl alcohol, lauryl alcohol, myristyl alcohol, cetyl alcohol, palmitoleyl alcohol, stearyl alcohol, isostearyl alcohol, oleyl alcohol, elaidyl alcohol, petroselinyl alcohol, arachyl alcohol, gadoleyl alcohol, behenyl alcohol and erucyl alcohol and the technical mixtures thereof obtained by high-pressure hydrogenation of technical methyl ester fractions or aldehydes from Roelen's oxo synthesis. The sulfation products may advantageously be used in the form of their alkali metal salts, more particularly their sodium salts. Alkyl sulfate powders or needles based on C_{16/18} tallow fatty alcohols or vegetable fatty alcohols of comparable C-chain distribution in the form of their sodium salts are particularly preferred.

Alcohol polyethylene glycol ethers

Alcohol polyethylene glycol ethers which form component (b) are nonionic surfactants which are industrially obtained by addition of ethylene oxide onto primary, linear or branched alcohols. Alcohol polyethylene glycol ethers particularly suitable for the purposes of the invention correspond to formula (II):



in which R² is a linear or branched alkyl and/or alkenyl group containing 6 to 22 carbon atoms and n is a number of 1 to 50. Typical examples are products of the addition of on average 1 to 50 and more particularly 20 to 30 moles of ethylene oxide onto caproic alcohol, caprylic alcohol, 2-ethyl

hexyl alcohol, capric alcohol, lauryl alcohol, isotridecyl alcohol, myristyl alcohol, cetyl alcohol, palmitoleyl alcohol, stearyl alcohol, isostearyl alcohol, oleyl alcohol, elaidyl alcohol, petroselinyl alcohol, arachyl alcohol, gadoleyl alcohol, behenyl alcohol, erucyl alcohol and brassidyl alcohol and technical mixtures thereof. The alcohol polyglycol ethers may have both a conventional and a narrow homolog distribution. It is particularly preferred to use addition products of on average 20 to 30 moles ethylene oxide onto technical C_{12/14} or C_{12/18} coconut fatty alcohol fractions or tallow fatty alcohol.

Alkyl and/or alkenyl oligoglycosides

Alkyl and alkenyl oligoglycosides form surfactant component (c) and are known nonionic surfactants which correspond to formula (III):



where R³ is an alkyl and/or alkenyl group containing 4 to 22 carbon atoms, G is a sugar unit containing 5 or 6 carbon atoms and p is a number of 1 to 10. They may be obtained by the relevant methods of preparative organic chemistry. **EP-A1 0 301 298** and **WO 90/03977** are cited as representative of the extensive literature available on the subject. The alkyl and/or alkenyl oligoglycosides may be derived from aldoses or ketoses containing 5 or 6 carbon atoms, preferably glucose. Accordingly, the preferred alkyl and/or alkenyl oligoglycosides are alkyl and/or alkenyl oligoglucosides.

25 The index p in general formula (III) indicates the degree of oligomerization (DP), i.e. the distribution of mono- and oligoglycosides, and is a number of 1 to 10. Whereas p in a given compound must always be an integer and, above all, may assume a value of 1 to 6, the value p for a certain alkyl oligoglycoside is an analytically determined calculated quantity which is generally a broken number. Alkyl and/or alkenyl oligoglycosides having an average degree of oligomerization p of 1.1 to 3.0 are preferably used. Alkyl

and/or alkenyl oligoglycosides having a degree of oligomerization of less than 1.7 and, more particularly, between 1.2 and 1.4 are preferred from the applicational point of view. The alkyl or alkenyl group R^3 may be derived from primary alcohols containing 4 to 11 and preferably 8 to 10 carbon atoms. Typical examples are butanol, caproic alcohol, caprylic alcohol, capric alcohol and undecyl alcohol and the technical mixtures thereof obtained, for example, in the hydrogenation of technical fatty acid methyl esters or in the hydrogenation of aldehydes from Roelen's oxosynthesis. Alkyl oligoglucosides having a chain length of C_8 to C_{10} (DP = 1 to 3), which are obtained as first runnings in the separation of technical C_{8-18} coconut oil fatty alcohol by distillation and which may contain less than 6% by weight of C_{12} alcohol as an impurity, and also alkyl oligoglucosides based on technical $C_{9/11}$ oxoalcohols (DP = 1 to 3) are preferred. In addition, the alkyl or alkenyl group R^3 may also be derived from primary alcohols containing 12 to 22 and preferably 12 to 14 carbon atoms. Typical examples are lauryl alcohol, myristyl alcohol, cetyl alcohol, palmitoleyl alcohol, stearyl alcohol, isostearyl alcohol, oleyl alcohol, elaidyl alcohol, petroselinyl alcohol, arachyl alcohol, gadoleyl alcohol, behenyl alcohol, erucyl alcohol, brassidyl alcohol and technical mixtures thereof which may be obtained as described above. Alkyl oligoglucosides based on hydrogenated $C_{12/14}$ cocoalcohol with a DP of 1 to 3 are preferred.

Electrolyte salts

Suitable electrolyte salts, which represent the principal constituents of the compositions according to the invention, are for example alkali metal and/or alkaline earth metal phosphates, hydrogen phosphates, carbonates, hydrogen carbonates, sulfates, silicates, acetates, citrates and the like. Typical examples are sodium tripolyphosphate, potassium tripolyphosphate, sodium hydrogen phosphate, potassium hydrogen phosphate, sodium carbonate, potassium carbonate, calcium carbonate, sodium

hydrogen carbonate, potassium hydrogen carbonate, sodium sulfate, potassium sulfate, magnesium sulfate, calcium sulfate, sodium metasilicate, potassium metasilicate, sodium acetate, potassium acetate, magnesium carbonate, calcium acetate, sodium citrate and/or potassium citrate. Other suitable electrolyte salts are aluminosilicates, such as the zeolites known as detergent builders.

Organic builders

In one preferred embodiment of the invention, the compositions contain organic builders, for example ethylenediamine tetraacetate (EDTA), nitrilotriacetate (NTA), citric acid and the like, in order further to improve their drainage behavior on the hard surfaces. In addition, it has proved to be of advantage to use sulfonated styrene/maleic anhydride copolymers, for example of the type marketed under the name of Versa® TL-3 by National Starch & Chemical Ltd., particularly for solid compositions. The anionic polymers are generally used in quantities of 1 to 25% by weight and preferably in quantities of 2 to 10% by weight, based on the composition.

Cleaning compositions

Substantially water-free compositions containing - based on their solids content -

- (a) 1 to 10, preferably 2 to 6% by weight of alkyl and/or alkenyl sulfates,
 - (b) 1 to 10, preferably 3 to 8% by weight of alcohol polyethylene glycol ethers,
 - (c) 1 to 10, preferably 2 to 4% by weight of alkyl and/or alkenyl polyglycosides,
 - (d) 80 to 90, preferably 85 to 88% by weight of electrolyte salts and
 - (e) 0 to 25, preferably 1 to 10% by weight of builders
- with the proviso that the quantities shown add up to 100% by weight, have

proved to be optimal for solving the problem addressed by the present invention. The compositions have a water content of less than 5% by weight, preferably less than 2% by weight, and a pH value in the range from 9 to 12. The compositions can be produced by known methods, i.e. in the simplest form, powder mixtures with bulk densities of 650 to 750 g/l are produced in a mixer, for example a Schugi mixer. Basically, it is of course also possible to use the known industrial processes for the production of washing powders, i.e. for example the drying of water-containing slurries with hot gases (spray drying) or superheated steam (steam drying) in countercurrent, fluidized bed agglomeration (SKET granulation), simultaneous drying and granulation in a horizontal thin-layer evaporator (flash drying) and the like. Besides the ingredients mentioned above, the compositions may contain other surfactants, for example sulfosuccinates, sulfosuccinamates, sorbitan esters, polysorbates, amine ethoxylates, quaternized amine ethoxylates, esterquats or betaines, and also saturated or unsaturated fatty acids, silicone oils and Guerbet alcohols.

Commercial Applications

The compositions according to the invention dissolve readily in water, including cold water, remove soil, including obstinate soil, from painted metal surfaces and provide those surfaces with an antistatic finish against re-soiling. Accordingly, they may of course also be marketed in the form of aqueous concentrates with a solids content of 15 to 50% by weight or even in the form of a diluted 5 to 15% by weight liquid. The present invention also relates to their use for the simultaneous cleaning and antistatic finishing of painted metal surfaces, especially car bodies and bodywork parts.

Examples

In order to evaluate their performance properties, compositions 1 to 3 according to the invention and comparison mixtures C1 to C3 were tested for their cleaning performance, their antistatic effect and their drainage behavior. Cleaning performance was tested by coating a red-painted metal plate (10 x 10 cm) with 5 g of lubricating oil and then treating it for 20 seconds with a 5% by weight aqueous solution of the test substances in the form of a concentrated water jet ("Kärcher"). The residue was then incinerated, weighed out and placed in a ratio to the amount of oil originally applied, i.e. the lower the value, the higher the performance. The antistatic finish was evaluated by the conductivity method using red-painted metal plates. The higher the resistance value observed, the better the antistatic charging and the lower the tendency to attract dust. Drainage behavior was subjectively determined - "+++" stands for very rapid drainage, "-" for slow drainage. The results are set out in Table 1 below.

Table 1**Solid preparations and performance properties**

Composition /performance	1	2	3	C1	C2	C3
C _{12/16} alkyl sulfate Na salt	5.0	5.0	4.0	0	5.0	0
C _{16/18} tallow fatty alcohol+25 EO	3.0	3.0	4.0	0	0	5.0
C _{12/14} cocoalkyl oligoglucoside	1.0	2.0	2.0	5.0	0	0
Sodium tripolyphosphate	50.0	50.0	50.0	50.0	50.0	50.0
Sodium metasilicate	15.0	15.0	15.0	15.0	15.0	15.0
Sodium carbonate	26.0	24.0	24.0	30.0	30.0	30.0
Versa TL-3*	-	2.0	2.0	-	-	-
Cleaning performance [%]	10	10	10	44	35	37
Conductivity [mS]	7.9	8.5	8.5	2.3	0.3	0.2
Drainage behavior	++	+++	+++	-	-	-

*) Sulfonated styrene/MA copolymer, sodium salt

CLAIMS

1. Compositions for cleaning hard surfaces containing

- (a) alkyl and/or alkenyl sulfates,
- (b) alcohol polyethylene glycol ethers,
- 5 (c) alkyl and/or alkenyl oligoglycosides and
- (d) electrolyte salts.

2. Compositions as claimed in claim 1, characterized in that they contain as component (a) alkyl and/or alkenyl sulfates corresponding to formula (I):

10



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where R^1 is a linear or branched aliphatic alkyl and/or alkenyl group containing 6 to 22 and preferably 12 to 18 carbon atoms and X is an alkali metal and/or alkaline earth metal, ammonium, alkylammonium, alkanol-ammonium or glucammonium.

3. Compositions as claimed in claim 1 and/or 2, characterized in that they contain as component (b) alcohol polyethylene glycol ethers corresponding to formula (II):

20



where R^2 is a linear or branched alkyl and/or alkenyl group containing 6 to 22 carbon atoms and n is a number of 1 to 50.

25

4. Compositions as claimed in at least one of claims 1 to 3, characterized in that they contain as component (c) alkyl and alkenyl oligoglycosides corresponding to formula (III):

30



in which R^3 is an alkyl and/or alkenyl group containing 4 to 22 carbon

atoms, G is a sugar unit containing 5 or 6 carbon atoms and p is a number of 1 to 10.

5. Compositions as claimed in at least one of claims 1 to 4, characterized in that they contain alkali and/or alkaline earth metal phosphates, hydrogen phosphates, carbonates, hydrogen carbonates, sulfates, silicates, acetates and/or citrates as component (d).

6. Compositions as claimed in at least one of claims 1 to 5, characterized in that they additionally contain organic builders.

7. Compositions as claimed in at least one of claims 1 to 6, characterized in that they contain, based on the solids content,

- (a) 1 to 10% by weight of alkyl and/or alkenyl sulfates,
- (b) 1 to 10% by weight of alcohol polyethylene glycol ethers,
- (c) 1 to 10% by weight of alkyl and/or alkenyl oligoglycosides,
- (d) 80 to 90% by weight of electrolyte salts and
- (e) 0 to 25% by weight of builders

with the proviso that the quantities shown add up to 100% weight.

8. Compositions as claimed in at least one of claims 1 to 7, characterized in that they have a water content of less than 5% by weight.

9. Compositions as claimed in at least one of claims 1 to 7, characterized in that they have a water content of 5 to 50% by weight.

10. The use of the compositions claimed in claim 1 for the simultaneous cleaning and antistatic finishing of painted metal surfaces.

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0010/PTO Rev. 6/95	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number	H 3888 PCT/US
<h2 style="margin: 0;">DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION</h2>		First Named Inventor	Mayoud, Beatrice
		COMPLETE IF KNOWN	
		Application Number	09/914,303
		Filing Date	10/29/01
		Group Art Unit	
		Examiner Name	
<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Declaration Submitted with Initial Filing </div> <div>OR</div> <div> <input checked="" type="checkbox"/> Declaration Submitted after Initial Filing </div> </div>			

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

CLEANING AGENTS FOR HARD SURFACES

(Title of the Invention)

the specification of which

☐ is attached hereto

OR

☒ was filed on (MM/DD/YYYY)

02/18/2000

as United States Application Number or PCT International

Application Number

PCT/EP00/01312

and was amended on (MM/DD/YYYY)

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority		Certified Copy Attached?	
			Not Claimed		YES	NO
199 08 563.3	Germany	02/27/1999	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority sheet attached hereto.

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Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.

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DECLARATION

Page 2

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s), or §365© of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code §112.1 acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)
	PCT/EP00/01312	02/18/2000	

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority sheet attached hereto.

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

<input type="checkbox"/> Firm Name		Customer Number	or label	
OR				

☒ List Attorney(s) and/or agent(s) name and registration number below:

Name	Registration Number	Name	Registration Number
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name	Beatrice	Middle Initial		Family Name	MAYOUD	Suffix e.g. Jr.	
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Inventor's Signature	31/07/01 <i>[Signature]</i>	Date	21/08/01
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Residence: City	Perthes en Gatinais	State		Country	France	Citizenship	French FOX
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☒ Additional inventors are being named on supplemental sheet(s) attached hereto

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DECLARATION				ADDITIONAL INVENTOR(S) Supplemental Sheet			
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
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						Applicant Authority	
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name		Middle Initial		Family Name		Suffix e.g. Jr.	
Inventor's Signature				Date			
Residence: City		State		Country		Citizenship	
Post Office Address							
Post Office Address							
City	40789 Monheim	State		Zip		Country	Germany
						Applicant Authority	
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name		Middle Initial		Family Name		Suffix e.g. Jr.	
Inventor's Signature				Date			
Residence: City		State		Country		Citizenship	
Post Office Address							
Post Office Address							
City		State		Zip		Country	
						Applicant Authority	
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name		Middle Initial		Family Name		Suffix e.g. Jr.	
Inventor's Signature				Date			
Residence: City		State		Country		Citizenship	
Post Office Address							
Post Office Address							
City		State		Zip		Country	
						Applicant Authority	
<input type="checkbox"/> Additional inventors are being named on supplemental sheet(s) attached hereto							